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Ontario Hydro-Electric Inquiry  
Commission, 1922-1923

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HYDRO-ELECTRIC INQUIRY COMMISSION

(HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO)

Report on investigation of accounts



NIAGARA SYSTEM

REPORT DATED JANUARY 24, 1923  
UPON CHANGES IN INVESTMENT IN CAPITAL ASSETS  
AND ESTIMATED RESULTS FROM OPERATIONS FOR  
THE TEN MONTHS ENDING AUGUST 31, 1922

Price, Waterhouse & Co.  
ROYAL BANK BUILDING  
TORONTO, ONT., CANADA



PRICE, WATERHOUSE & CO.

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CANADA. UNITED STATES. MEXICO.  
GREAT BRITAIN.

ROYAL BANK BUILDING

CONTINENTAL EUROPE, ETC.  
PRICE, WATERHOUSE, PEAT & CO.  
SOUTH AMERICA  
PRICE, WATERHOUSE, FALLER & CO.  
ALSO, GREAT BRITAIN  
W. B. PEAT & CO.

Statement showing the monthly balances  
in the Capital Assets of the

TORONTO

Niagara System and Queenston-Chippawa Development  
1921 to August 31, 1922

January 24th, 1923

\* To Statement showing classification of the  
Queenston-Chippawa Development account  
as of August 31, 1922

\* To Statement showing the monthly balances in  
the Capital Assets accounts of the Ontario

W. D. Gregory, Esq., Chairman,  
Hydro-Electric Inquiry Commission,  
Toronto, Ontario.

Dear Sir:

The results from operations (approximately estimated) of the  
NIAGARA SYSTEM  
Niagara System : CHANGES IN INVESTMENT IN CAPITAL ASSETS  
AND ESTIMATED RESULTS FROM OPERATIONS  
FOR THE TEN MONTHS ENDING AUGUST 31, 1922

giving effect thereto to the results from operations of the Ontario  
Power Commission, and also the estimated results from operations of the Queenston-Chippawa Development, the  
In accordance with your instructions we have made a  
general investigation of the accounts and records of the Hydro-  
Electric Power Commission of Ontario for the purpose of showing  
the changes in the amount of investment in Capital Assets of the  
Niagara System for the period of ten months from November 1,  
1921 to August 31, 1922, and also the approximate results from  
operations of that system for the same period.

Statements submitted herewith, showing the changes, by  
months, in the amount of investment in capital assets of the  
Niagara System, including the Queenston-Chippawa Development, the  
Ontario Power Company of Niagara Falls and its subsidiary, the  
Ontario Transmission Company, Limited, are as follows:



**Exhibit I Statement showing the monthly balances in the Capital Asset Accounts of the Niagara System including the Queenston-Chippawa Development from October 31, 1921 to August 31, 1922**

- \* Ia Statement showing classification of the Queenston-Chippawa Development Account as at August 31, 1922
- \* II Statement showing the monthly balances in the Capital Asset Accounts of the Ontario Power Company of Niagara Falls and its subsidiary, the Ontario Transmission Company, Limited, from October 31, 1921 to August 31, 1922

The results from operations (partially estimated) of the Niagara System for the first ten months of the fiscal year ending October 31, 1922 commented upon in this memorandum are stated, after giving effect therein to the results from operations of the Ontario Power Company of Niagara Falls and its subsidiary, the Ontario Transmission Company, Limited, which are also to an extent, based on estimates. These companies are regarded as forming part of the Niagara System proper.

The statements which we have prepared in this connection and now submit are as follows:

Exhibit III Comparative Statement of operations  
of the Niagara System for the ten  
months ending August 31, 1922,  
(partially estimated)

A summary of statements subsidiary thereto-  
grouped under the heading  
IIIa - Operating Expenses  
IIIb - Maintenance Expenses  
IIIC - Indirect Expenses



Exhibit IV Comparative Statement of Operations of the Ontario Power Company of Niagara Falls and its subsidiary, the Ontario Transmission Company, Limited, for the ten months ending August 31, 1922, (partially estimated).

Statements subsidiary thereto -

IVa - Operating Expenses

IVb - Maintenance Expenses

\* V Actual Cost per Horse Power to Municipalities of the Niagara System for the fiscal year ending October 31, 1921, together with a comparison of Interim Rates charged for that year and for the ten months ending August 31, 1922.

\* VI Cost of Power purchased by the Niagara System based on Costs, partially estimated, to August 31, 1922.

#### CAPITAL ASSET ACCOUNTS

##### QUEENSTON-CHIPPWA DEVELOPMENT:

The balance in the Queenston-Chippawa Development account at August 31, 1922, amounted to \$62,299,671.84 as compared with \$57,695,750.39 at October 31, 1921 (exclusive of the Walkerton quarry) representing an increase of \$4,603,921.45 for the ten months period between those dates.

A summary of the net changes in the more important accounts, grouped under the two general classifications of permanent and interim construction accounts, is as follows:

Corresponding to Exhibit II contained in our memorandum transmitted to you on the date of August 31, 1922, setting forth a list of the



Particulars	Balance at October 31 1921	Balance at August 31 1922	Net Increase or Decrease
<b>PERMANENT CAPITAL ACCOUNTS:</b>			
Right-of-way	\$ 1,358,205.19	1,423,493.15	65,287.96
Intake Works	1,015,697.85	1,353,359.29	337,661.44
River Improvements	951,671.14	1,051,630.42	99,959.28
Penstocks - Steel	651,586.90	1,068,664.58	417,077.68
Powerhouse - General	1,295,541.44	1,388,306.10	92,764.66
Powerhouse - Substructure	1,234,202.88	1,864,566.83	630,363.95
Turbines and Governors -			
Main	966,499.54	1,479,560.91	513,061.37
Bridges, Trestles, Culverts and Roadways	2,040,568.00	2,503,927.44	462,359.44
Forebay	1,164,056.20	1,271,354.73	107,298.53
Headworks - Substructure	1,185,841.05	1,438,464.41	252,623.36
Canal	34,053,140.15	38,744,989.32	4,691,849.17
Queenston Generating Station	2,184,299.36	3,527,370.20	1,343,070.84
Sundry Items	774,572.53	1,437,617.78	663,045.25
<b>Together</b>	<b>\$48,875,862.23</b>	<b>58,552,305.16</b>	<b>9,676,422.93</b>
<b>INTERIM CONSTRUCTION ACCOUNTS:</b>			
Insurance and Taxes	\$ 251,914.93	4,457.14	256,372.07
Administration Charges	255,210.20	47,429.09	302,639.29
Interest during Construc- tion	189,253.44	721,100.76	531,847.32
Engineering	274,997.38	52,452.32	222,545.06
Stores	2,554,206.47	1,470,216.21	1,083,990.26
Temporary Buildings	249,559.27	119,541.13	130,018.14
Construction Plant and Machinery	3,405,242.30	1,997,298.84	1,407,943.46
Construction Railways	677,781.76	346,686.02	331,095.74
Construction - Power	74,456.09	90,907.61	165,363.70
Construction Plant Main- tenance and Repairs	504,998.75	3,406.99	508,405.74
Auxiliary Plant Operations	404,916.50	14,199.47	419,115.97
Salvage of Material and Plant	43,458.65	222,041.47	178,582.82
Montrose Substation	308,308.51	18,602.90	327,411.41
Sundry Items (Net)	152,482.97	257,419.43	104,936.46
<b>Together</b>	<b>\$ 8,819,868.16</b>	<b>3,747,366.68</b>	<b>5,072,501.48</b>
<b>Total Investment</b>	<b>\$57,695,750.39</b>	<b>62,299,671.84</b>	<b>4,603,921.45</b>

Corresponding to Exhibit II contained in our memorandum submitted to you under date of August 2, 1922, setting forth a list of the



balances as at October 31, 1921 of the Queenston-Chippawa Development Account, Exhibit Ia herewith, shows the balances in the various accounts as at August 31, 1922. The accounts now submitted reflect, as formerly, the result of the partial distribution made by the Engineering Department of the Commission of sundry temporary accounts.

No interest on the investment in non-operating capital representing construction work completed or in progress, has been included in the Capital Asset Accounts of the Queenston-Chippawa Development as at August 31, 1922, for the period from October 31, 1921 to that date. The amount of interest to be capitalized, we understand, is to be determined when the accounts are closed for the fiscal year ending October 31, 1922.

The balance in the Walkerton quarry Account at August 31, 1922, amounted to \$259,967.53. This property, as stated in our report upon the Walkerton quarry addressed to you under date of September 23, 1922, was sold to the Hanover Portland Cement Company, Limited, under an agreement dated March 14, 1922 for a consideration of \$310,000.00. According to the agreement, \$50,000.00 of this amount was to have been paid on or before March 31, 1922, and the balance of \$260,000.00 in half-yearly instalments, the final instalment of which is due on March 31, 1937. The amount of \$50,000.00 due on March 31, 1922, was paid on May 15, 1922, so that the balance of \$259,967.53 at August 31, 1922, represents the balance still owing on the purchase price, less certain credits amounting to \$32.47, which are being transferred from the account. The balance in the Walkerton Quarry Account at August 31, 1922, therefore, is to be regarded as a balance owing on Land Contract Receivable. The title to the properties is to remain in the Hydro-Electric Power Commission until full payment of the purchase price has been made.



NIAGARA SYSTEM - RIGHT-OF-WAY, STATIONS, LINES, ETC:

A summary of the net changes in the Capital Asset Accounts of the Niagara System, exclusive of the Queenston-Chippawa Development, for the period from October 31, 1921 to August 31, 1922, is as follows:

<u>Particulars</u>	<u>Balance at October 31 1921</u>	<u>Balance at August 31 1922</u>	<u>Net Increase or Decrease</u>
Right-of-Way	\$ 1,511,125.19	1,514,906.62	3,781.43
Transformer Stations	8,533,621.45	10,276,141.44	1,742,519.99
Transmission Lines	7,279,509.54	8,277,420.77	997,920.23
Rural Construction	481,548.98	400,470.51	-81,078.47
Rural Power Districts Construction	14,876.47	437,315.09	422,438.62
<b>Totals</b>	<b>\$17,800,681.63</b>	<b>20,906,263.43</b>	<b>3,105,581.80</b>

The principal property additions comprising the aforementioned net increase of \$3,105,581.80 are as follows:

Transformer Stations - Net Increase \$1,742,519.99 -

Queenston Station and Equipment -

43.5% of cost during period from November 1, 1921 to August 31, 1922 (Work Order #21-1) in connection with Queenston Station. It is estimated that 43.5% represents approximately the cost of transformer equipment and that portion of the building required to house same	\$1,148,495.06
Essex Station - 3000 K.V.A. Transformer Bank No.2	39,852.53
London Station - Installation 5000 K.V.A. Transformers electric heating and emergency 13200 volt bus	138,185.56
Guelph Station - Installation of Bank of 2500 K.V.A. Transformers	38,596.67
Toronto Station - Spare Transformer Bank	90,678.25
Niagara Station - 110 K.V. Outdoor Line Oil Breaker	30,699.20
Kent Station - Increased transformer capacity and 26400 volt emergency bus	31,122.85
Nine 5000 K.V.A. 110 K.V. transformer	101,689.79
Hamilton Station - Cost to date on station Super-structure and Electrical Equipment	74,471.46
Other expenditures during the period	49,328.62

Net additions from October 31, 1921 to  
August 31, 1922

\$1,742,519.99



Transmission Lines - Net Increase \$997,920.23 -

Forebay Structure - Queenston to Saltfleet Junction- Erection of double circuit steel tower line 110,000 volt, 605,000 C.M. steel reinforced aluminum cable	\$ 761,568.62
Erection of special towers for two canal crossings over Welland Canal	57,458.19
Nelson Junction to Cooksville - Erection of single circuit on existing towers, 110,000 volt, 500,000 C.M. steel reinforced aluminum cable	20,878.49
Saltfleet Junction to Hamilton City - Erection of double circuit steel tower line 110,000 volt 500,000 C.M. steel reinforced aluminum cable	20,573.93
Forebay Structure to Junction Point on Section 1X2 steel tower lines and two circuits of 110,000 volt, 500,000 C.M. steel reinforced aluminum cable	39,248.45
Queenston Station to structure south of Forebay- Erection of material to carry five circuits of 605,000 C.M. cable	17,943.69
Other expenditures on sundry work orders	80,250.86
<u>Net additions October 31, 1921 to</u> <u>August 31, 1922</u>	<u>\$ 997,920.23</u>

Rural Construction - Net Decrease \$61,078.47 -

The balance in the Niagara Rural Construction Account at October 31, 1921, amounted to \$461,548.98 as compared with \$400,470.51 at August 31, 1922, a decrease of \$61,078.47, which may be accounted for as follows:

Transfers to Niagara Rural Power Districts -

Construction Account -

Cost of construction of 2200 volt line from Bullocks' Corner to Christies' Corner, west Flamboro Township	\$ 9,040.93
Cost of construction of 2200 volt line into Capetown	3,265.11
Transfer of expenditures under Work Order N.C.R. 109-3 Preston Rural Power District	9,155.08
Sale of Rural Lines in Toronto Town- ship for	\$38,806.00
Add - Sinking Fund provided	5,947.02
Together	\$44,753.02
Less - Interest at 5% from November 1, 1921 to June 30, 1922	1,443.65

- Together \$64,770.49

Less - Sundry additions (net) \$3,692.02

Balance being decrease in Capital Investment  
from October 31, 1921 to August 31, 1922 \$ 61,078.47



Rural Power Districts Construction - Net Increase of \$422,438.62 -

The amount of investment in the Niagara Rural Power Districts construction increased from \$14,876.47 at October 31, 1921 to \$437,315.09 at August 31, 1922, or \$422,438.62. Expenditures during that period on several of the larger work orders, were as follows:

Saltfleet District - Construction of 62 miles of wood pole lines	\$135,012.39
Dorchester District - 30 miles of primary lines and certain secondary equipment to serve 200 customers	48,283.65
Chippawa District - 4000 volt lines on Sodom Road, Chippawa Village to Stevensville	25,169.47
Woodstock District - construction of 42.45 miles of wood pole lines	21,542.63
Ridgetown District - 2.75 miles 4000 volt and 9.25 miles 2300 volt lines in Howard Township	18,040.60
Chatham District - 5.15 miles 4000 volt, and 13.35 miles 2300 volt lines in Harvard and Raleigh Townships	22,161.70
<u>Together</u>	<u>\$270,230.44</u>

The balances in the capital accounts of the Niagara System as at August 31, 1922 include engineering, and construction overhead expenses, depreciation of tools, etc., and interest on non-operating capital estimated at the rate of 5.5% on all work orders with the exception of three work orders on the transmission lines on which at that date the charges aggregated \$155,976.59. Interest to be charged on these orders, we are advised, is still under consideration. Interest on the borrowings from the Province of Ontario for the year ending October 31, 1922 has now been determined to be at the rate of 5.48% as compared with the estimated rate of 5.5% mentioned above.



ONTARIO POWER COMPANY OF NIAGARA FALLS:  
THE ONTARIO TRANSMISSION COMPANY LIMITED:

By reference to Exhibit II, attached hereto, it will be noted that the changes in the Capital Asset Accounts of the above Companies during the period from October 31, 1921 to August 31, 1922, are comparatively small in amount. Charges, however, on Work Orders in connection with maintenance and renewal of plant and equipment and on construction work in progress of the Ontario Power Company of Niagara Falls, amounted at August 31, 1922 to \$101,395.45. This amount has not been included in the above mentioned exhibit since it is the practice of the Commission to distribute the amount of expenditures to capital, maintenance, etc., at the close of each fiscal year on the basis of information furnished by the Engineering Department.

Charges in respect of the more important of these items as at August 31, 1922 are as follows:

Reconstruction of Nos. 15 and 16 portion of Generating Station	\$ 29,002.55
Rewinding No. 11 Generator	42,303.73
Clearing up wreckage and repairs caused by No. 15 Generator explosion	13,689.63
Testing Hydraulic Equipment	5,691.79
Reconstruction of Pressure Regulators	3,778.70
 <u>Together</u>	 \$ 94,466.40

In the preparation of statements submitted herewith in connection with the Capital Asset Accounts it should be understood that no attempt has been made to substantiate the general ledger balances in these accounts by reference to the detail ledgers containing the underlying sub-accounts.



ESTIMATED RESULTS FROM OPERATIONS OF THE NIAGARA SYSTEM  
FOR THE PERIOD FROM  
NOVEMBER 1, 1921 TO AUGUST 31, 1922

The estimated cost of operation of the Niagara System for the ten months ending August 31, 1922, amounted to \$4,847,755.40. The details in support of this amount in comparative form, by months, are shown in Exhibit III attached hereto. In arriving at the above amount, the estimated loss from operations of the Ontario Power Company for the same period has been taken into consideration at the figure of \$552,505.87 and represents, for the present purpose, additional cost of power to the Niagara System. Details of the operations of the latter Company are shown in Exhibit IV.

From November 1, 1921 to August 31, 1922, the total charges against municipalities representing interim power bills for that period, and against private companies aggregated \$4,455,452.44, which amount is insufficient to meet the estimated operating expenses of the system for the same period by the sum of \$392,302.96.

The schedule of interim rates charged to the various municipalities for the period of ten months ending August 31, 1922, as compared with the interim rates for the fiscal year ending October 31, 1921, and the actual costs per H. P. in that year are shown in Exhibit V submitted herewith.

ESTIMATED RESULTS FROM OPERATIONS OF  
THE ONTARIO POWER COMPANY OF NIAGARA FALLS  
AND ITS SUBSIDIARY COMPANY,  
THE ONTARIO TRANSMISSION COMPANY, LIMITED

The estimated loss from operations of the above companies, for the first ten months of the fiscal year ending October 31, 1922, shown in comparative form, by months, in Exhibit IV, amounted to \$552,505.87, a summary of which is as follows:



<u>Particulars</u>	<u>Amount</u>
<u>Revenue -</u>	
Power Sales -	
Niagara System	\$1,027,711.90
Sundry Hydro Undertakings	82,211.89
Companies	1,080,951.95
	<u>\$2,190,875.74</u>
<u>Deduct - Expenses -</u>	
Water Power Rentals	\$106,209.62
Operating Expenses	151,586.20
Maintenance Expenses	153,214.49
Taxes and Insurance	84,535.06
Power Purchased	\$ 495,545.37 616,629.90
	<u>1,112,175.27</u>
Balance	<u>\$1,078,700.47</u>
<u>Deduct - Administrative Expenses</u>	
Balance	<u>52,417.03</u>
<u>Add - Miscellaneous Revenue</u>	
Profit before deducting Fixed Charges, etc.	<u>\$1,053,673.13</u>
<u>Deduct - Fixed Charges (including Sinking Fund provisions)</u>	
	<u>1,606,179.00</u>
Balance, Net Loss (partially estimated)	<u>\$ 532,505.87</u>

The charges against the Niagara System are at the rate of \$9.00 per H. P. per annum up to 100,000 H. P. and all power in excess thereof at the rate of \$18.00 per H. P. per annum.

Power supplied to the Hydro Interests billed to the Hydro-Electric Power Commission amounted to \$82,211.89 and represented power delivered to the Thorold System and to the Municipalities of Merrittton, Port Colborne, St. Catharines and Port Robinson which are included in the accounts under Niagara Rural Lines. Since the Ontario Power Company is now considered as being operated for the benefit of the municipalities of the Niagara System, and the agreements entered into by the Hydro Commission with the municipalities mentioned above provide for the supply of power at cost, an adjustment of charges will require to be made on that basis. The engineering and accounting departments of the Commission, we understand, are at present engaged in making this computation, and when the actual cost is determined the



net increase or decrease in the cost of power to the Thorold System and to certain municipalities on the Niagara Rural Lines as compared with the amounts charged therefor by the Ontario Power Company to the Hydro Commission, will result in a corresponding adjustment of the amount of the loss of \$552,505.87, now shown in Exhibit III as borne by the Niagara System proper.

With regard to power supplied to companies under contract, the table shows the larger purchasers at the rates specified, together with the amounts billed respectively for the period, viz:

<u>Names and Rates</u>	<u>Amounts charged for ten months ending August 31, 1922</u>
American Cyanamid Company, Limited- \$10.50 per H.P. per annum	\$ 229,174.13
Beaver Wood Fibre Company Limited- \$13.50 per H.P. per annum	33,726.72
Canada Cement Company- \$13.00 per H.P. per annum	36,395.88
Empire Cotton Mills, Limited- 1000 K.W.H. at \$ .02 per K.W.H. 1000 K.W.H. at .015 " " 1000 K.W.H. at .01 " " 2000 K.W.H. at .0075" " Balance at .006 " "	25,044.96
Niagara Lockport and Ontario Power Company- 40,000 K.W. at \$16.76 per K.W. 5,000 K.W. at \$ .002 $\frac{1}{2}$ per K.W.H.	575,551.04
Ontario Power Company- 1st class Power at \$13.50 per annum 2nd class Power at 3.37 " "	71,961.54
Sundry Companies at various rates	109,097.68
<b>Total</b>	<b>\$1,080,951.95</b>

OPERATING AND MAINTENANCE EXPENSES (INCLUDING POWER PURCHASED):

Details of the Operating and Maintenance Expenses of the Ontario Power Company are shown in Exhibits IVa and IVb respectively, and, except for a few minor changes made for the purpose in hand, are



in agreement with the book accounts. Included under Maintenance Expenses is an item of \$30,000.00 in respect of Deferred Maintenance Work Orders. This amount, accrued at the rate of \$3,000.00 monthly, represents a tentative charge for maintenance which will undoubtedly be changed at October 31, 1922, the end of the fiscal year, when the total amounts of the work orders are allocated as between Capital, Maintenance and Renewal Charges.

Water Power Rentals for use of the Queen Victoria Niagara Falls Park have been included in Exhibit IV computed on a one minute peak basis. The Commissioners of the Park contend this is the method to be used in determining the amount of rental, while the Hydro Commission contends the rental should be charged on the average loads determined by kilowatt hours. Since the former method will result in a higher rental and it is the custom to take up on the books of the Ontario Power Company the additional liability, we have adopted this method in arriving at the estimated results from operation for the ten months period ending August 31, 1922.

Power is purchased from the Toronto Power Company at the rate of \$15.00 per H. P. per annum, and from the Canadian Power Company and its subsidiary, the Niagara Falls Power Company, at \$18.00 and \$16.20 per H. P. per annum, the latter amount being payable in U. S. funds. The purchase of power from the Canadian Niagara Power Company and its subsidiary was discontinued on March 1, 1922, and from the Toronto Power Company on March 20, 1922 and no power was again taken from these sources of supply until April 16, 1922 in the case of the Toronto Power Company, and April 20, 1922 in the case of the Canadian Niagara Power Company.

On April 16, 1922 an accident occurred to Unit No. 2 at the Queenston Generating Station and this unit was not again put into



operation until May 31, 1922. On April 20, 1922 the explosion of Unit No. 15 at the Ontario Power Company's Plant totally destroyed that Unit, and Unit No. 16, while Units Nos. 11, 12, 13 and 14 were damaged by water so that they were also temporarily put out of commission. The deficiency of power caused by these mishaps was required to be made up by outside purchases. It is the opinion of the engineering department of the Commission that had these accidents not occurred, it is reasonably certain that no purchases of outside power would have required to have been made after the discontinuation of service from the Toronto Power Company and the Canadian Niagara Power Company in March 1922. Thus in March the cost of purchased power to the Company amounted to \$24,286.33. In April it had increased to \$55,070.92, and in May it reached \$133,602.52. In June it had decreased to \$33,094.06, principally on account of the fact that Unit No. 2 at the Queenston Station had been repaired and was again supplying power to the Niagara System. The operations of the Ontario Power Company and its subsidiary resulted in a loss after providing sinking funds of approximately \$552,000.00 in the ten months ending August 1922 as compared with a loss of \$176,253.26 in the year ending October 31, 1921. In view of the statement that the necessity of purchasing power after March 1922 was almost wholly due to the accidents which occurred in April it will no doubt be of interest to note that the cost of power purchased in the five months from April to August, 1922 inclusive amounted to \$261,780.40.

FIXED CHARGES:

Fixed Charges consisting of provisions for sinking fund, and for renewals of plant and equipment, interest on bonds and cash advances, bond discount, etc., have been included in the attached statement on much the same basis as in the fiscal year ending October 31, 1921.



ESTIMATED RESULTS FROM OPERATIONS OF  
THE NIAGARA SYSTEM PROPER

The estimated results from operation of the Niagara System (exclusive of Rural Lines and Rural Power Districts) are shown in Exhibit III a summary of which is as follows:

<u>Particulars</u>	<u>Amount</u>
Cost of Operations, including portion of Administrative Expenses -	
Power purchased (including estimated loss of Ontario Power Company of \$552,505.87 and power developed at Queenston Plant)	\$3,110,807.25
Operating Expenses	\$233,199.53
Maintenance Expenses	231,841.62
Indirect or Overhead Expenses	172,972.09
Together	\$638,013.24
Deduct - Estimated Operating and Maintenance Expenses of the Queenston Generating Station including overhead charges applicable thereto	56,000.00 582,013.24 \$3,692,820.49
Add - Fixed Charges (exclusive of Queenston-Chippawa Development)	
Interest on Capital Investment (5%)	\$ 642,325.22
Provision for Renewals (2.5%)	289,699.69
Provision for sinking Fund	191,660.00
Provision for Contingencies	31,250.00 1,154,934.91
Total Estimated Expenses and Fixed Charges	\$4,847,755.40
Deduct - Charges against Private Companies and against Municipalities represented by Interim Power Bills	4,455,452.44
Balance representing deficiency of the charges to meet estimated Operating Expenses	\$ 392,302.96



while the revenue of \$4,455,452.44 from November 1, 1921 to August 31, 1922 is, according to the above summary, insufficient to meet the total operating expenses by the amount of \$392,302.96, it does not necessarily follow that this is the amount which will require to be made up by the municipalities of the Niagara System to meet the total estimated cost of operation of \$4,847,755.40, shown above. In addition to supplying power to municipalities and private companies, the Niagara System sells power at cost to the Essex County System, the Niagara Power Development at Chippawa, the Whirlpool and Montrose and to the Hydro Commission Service Building on Strachan Avenue. Adjustments in these instances to a cost basis, therefore, will subsequently be made, which adjustments will correspondingly increase or decrease, as the case may be, the cost of power to the various municipalities. Also it has been the practice of the Commission in prior years to take up through the Reserve for Contingencies, the net profit or loss on the sale of power to private companies on the system, and assuming that this practice will be followed in the fiscal year ending October 31, 1922, the cost of power to the various municipalities will again be affected.

The total cost of power purchased by the Niagara System for the ten months period ending August 31, 1922, amounted to \$3,110,807.25 and was obtained from the following sources:

Ontario Power Company-

At \$9.00 per H.P. per annum	\$ 608,611.36
At \$18.00 " " " "	<u>419,100.84</u>
<u>Together</u>	<u>\$1,027,711.90</u>
Add- Estimated loss from Operation November 1, 1921 to August 31, 1922	552,505.87
	<u>\$1,580,217.77</u>

Queenston-Chippawa Development-

At \$20.00 per H.P. per annum (later commented upon herein)	1,018,183.93
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Canadian Niagara Power Company-

At \$12.00 per H.P. per annum	496,833.82
Sundry Others	15,571.73

Together

\$3,110,807.25



OPERATING AND MAINTENANCE EXPENSES, ETC.:

Details of the Operating and Maintenance Expenses and of the Indirect or Overhead Expenses are to be found in Exhibits IIIa, IIIb and IIIc respectively. From the total of \$638,013.24, representing the aggregate of these three classes of expenses there has been deducted the amount of \$56,000.00 as the approximate cost of operating and maintaining the Queenston Generating Station together with the indirect charges applicable thereto for the months of February to August inclusive, these charges being included in the book accounts under Operating Cost of the Niagara System. The charge of \$20.00 per H.P. for power supplied by the Queenston Station is commented upon later in this memorandum.

FIXED CHARGES:

The estimated Fixed Charges for the period include -

Interest on Capital Investment (5%)	\$ 642,325.22
Provision for Renewals (2.5%)	289,699.69
Provision for Sinking Fund	191,660.00
Provision for Contingencies	31,250.00
 <u>Together</u>	 <u>\$1,154,934.91</u>

Interest on Capital Investment -

Interest on Capital Investment has been included for the Niagara System on the basis of 5% of the estimated Operating Capital for the period. This rate of 5% compares with the rate of 4.55% actually charged in the fiscal year ending October 31, 1921, and upon the basis of available information at this time, the rate for the fiscal year ending October 31, 1922 will be approximately 4.7%.

In accordance with the plan followed by the Commission in arriving at the amount of interest chargeable against operations, non-operating capital representing work in progress, etc., has been excluded from the Capital Investment. One of the larger and more



important items treated in this manner is the Queenston Transformer Station. At October 31, 1921 this investment amounted to \$1,572,562.89 to which has been added to August 31, 1922 for the ten months period ending on that date, additional charges of \$1,143,495.06 making a total of \$2,721,057.95. These charges are on the basis of 43.5% of the cost of the Queenston Station since it is tentatively estimated by the Electrical Engineering Department of the Commission that this percentage represents approximately the investment in Transformer Equipment and that portion of the building required to house the same. At the time of the preparation of the estimated results from operation of the Niagara System to August 31, 1922 it was undecided as to what extent, if at all, this amount would be regarded as Operating Capital since only two units were in operation for a portion of the period covered by these estimated figures. The item of interest, therefore, amounting to \$642,325.22 for the ten months period ending August 31, 1922 is subject to this and other qualifications which might arise from similar circumstances.

Provision for Renewals -

The provision for renewals has been included at the established rate of 2.5% on the amount of Operating Capital, but after excluding therefrom the investment in right-of-way of approximately \$1,500,000.00. The adequacy of the Renewals Provision, similar to the amount included in the statement on account of Interest on Capital Investment, would be subject to change depending upon the classification of certain items as Operating or Non-operating Capital.

Provision for Sinking Fund -

The Provision for Sinking Fund has been estimated at \$19,166.00 per month and is based upon (1) actual amounts previously determined to be charged against certain municipalities whose payments



in respect of sinking fund have been deferred from prior years, and (2) in the case of municipalities which have absorbed all charges to October 31, 1921 through cost of power to that date, the estimated provision for the period from November 1, 1921 to August 31, 1922 has been based upon the charge in the fiscal year 1921.

Provision for Contingencies -

The addition to the Reserve for Contingencies which is to provide for special losses or expenses has been computed at the same rate as for the fiscal year ending October 31, 1921, viz: \$37,500.00 per year.

QUEENSTON-CHIPIWA DEVELOPMENT -

RE CHARGE OF \$20.00 PER HORSE POWER:

Previous mention is made in this memorandum of an arbitrary charge of a more or less tentative nature, of \$20.00 per Horse Power per annum as the cost to the Niagara System of power generated by the Queenston-Chippawa Development.

At August 31, 1922 the amount of \$1,018,183.93 had accumulated on the above basis and at October 31, 1922, to which date the figures are now available in this connection, the amount is \$1,481,951.07.

During the fiscal year ending October 31, 1922 three units came into service during the months of January, March and October respectively. In view of the fact that operations were carried on to a limited extent only we understand it is the intention that no provisions in respect of renewals or sinking fund are to be made in this year.

The only expenses, therefore, which the amount of \$1,481,951.07 is required to meet are the costs of operation and maintenance of the station and interest on operating capital. The



following estimated figures prepared by the accounting department of the Commission indicate, approximately, to what extent these items will be met:

<u>Total interest chargeable for the fiscal year ending October 31, 1922 on operating and non-operating capital</u>	<u>\$3,775,110.64</u>
<u>Deduct - Interest from November 1, 1921, to January 31, 1922 chargeable to capital (Unit #1 began generating power on January 26, 1922)</u>	<u>917,062.81</u>
<u>Balance chargeable to current and future operations or to capital</u>	<u>\$2,858,047.83</u>
<u>Power generated at \$20.00 per H.P. in 1922</u>	<u>\$1,481,951.07</u>
<u>Deduct - Cost of operation and maintenance</u>	<u>82,026.82</u>
<u>Balance available to apply against interest</u>	<u>1,399,924.25</u>
<u>Balance to be capitalized or carried forward as a deferred expense to be charged against future revenue</u>	<u>\$1,458,123.58</u>

with a view to indicating the extent to which the inclusion of interest in operating costs on a basis of a flat charge of \$20.00 per H. P. exceeds the amount which might logically have been determined as properly chargeable thereto, we have made some calculations which are shown in the next succeeding paragraph.

#### QUEENSTON-CHIPPAWA DEVELOPMENT INTEREST CHARGES:

Until such time as the construction of the Queenston-Chippawa Development is completed and the nine generating units are in operation, interest charges on the total capital investment will require to be apportioned as between capital and operations. It



is our understanding that each unit will be capable of generating about 55,000 H. P. per annum, and it seems that a logical basis for determining the amount of interest which equitably should be charged into operating costs would be to divide the total interest charge into ninths, and then charge operations with one-ninth of the interest as each generating unit is put into use, having regard to the portion of the year during which the service is rendered from the date each generating unit commences to operate. For instance, on an assumed capital outlay of \$70,000,000, with interest tentatively calculated on a 6% basis, the annual interest charge would amount to \$4,200,000.00 and each one-ninth would therefore amount to approximately \$466,667.00. In the year ending October 31, 1922 one unit was in use for nine months, one for seven months and one for one month, equivalent to seventeen months operation of one unit. On the apportionment basis suggested the interest chargeable to operations for the fiscal year ending October 31, 1922 would therefore amount to \$661,111.00 as compared with the amount provided through charging \$20.00 per H. P. which it is estimated will amount to \$1,400,000.00 for the period. The Commission is naturally desirous of stepping the charges of interest to construction as soon as this can be effected; in fact they hope that by continuing the arbitrary charge of \$20.00 per H. P. the total interest charges will be absorbed in power costs when five units of the nine are in operation.

The Queenston Plant was constructed for the primary purpose of obtaining needed additional power, but also with the thought and expressed anticipation of materially reducing the generating costs per unit. In view of the expectation of developing cheaper power at this plant and keeping in mind that the average cost of all power supplied to the Niagara System during the fiscal year ending October 31, 1921 amounted to \$12.20 per horse power per annum, the



putting into effect of a \$20.00 rate for the Queenston Plant appears rather inconsistent.

The policy of the Power Commission of reducing as rapidly as possible and of stepping prior to completion of the plant, the charges of interest into construction costs is commendable in principle, but it appears that an error may have been made on the side of conservatism through adoption of the \$20.00 rate when it is considered that with interest apportioned on the basis suggested the cost of this power would have been determined at approximately \$10.00 per horse power per annum.

Adoption and continuation of the plan suggested for apportionment of interest would not be recommended in case undue delays should be encountered in the installation of the additional generating units.

The effect on the power costs of the Niagara System for the year ending October 31, 1922 through adoption of the \$20.00 rate instead of the rate of about \$10.00 which would result from the logical apportionment of interest is an increase of about \$740,000 and this factor should, of course, be borne in mind in considering the operating results of the system for the period ending August 31, 1922 as indicated by the attached accounts.

#### SINKING FUND FOR QUEENSTON-CHIPPAWA DEVELOPMENT:

No provision has been made in the accounts during the year ending October 31, 1922 in respect of a sinking fund for repayment of the capital cost of the Queenston-Chippawa Development. It will be remembered that the Ontario Niagara Development Act under authority of which these expenditures were made does not specify any sinking fund period but merely provides for a sinking fund being established.



We are informed it is the intention of the Power Commission to defer the making of any sinking fund provisions for some two or three years and to then provide for a sinking fund on either a fifty year or sixty year basis. With a view to showing what effect this sinking fund will have on the cost of power per h. p. per annum we are appending a table in which we have necessarily assumed the figures as to the total capital cost and the generating capacity viz:

Particulars	<u>Sinking Fund improved at 4%</u>	
	<u>50 year basis</u>	<u>60 year basis</u>
Assumed Capital Cost	\$70,000,000.00	\$70,000,000.00
Assumed Generating Capacity	495,000 H.P.	495,000 H.P.
Annual Sinking Fund Payments	\$ 458,500.00	\$ 294,140.00
Amount per H.P. per annum (approximately)	.93¢	.59¢

It appears quite proper to defer making sinking fund provisions for a period of two or three years until such time as construction is completed and the plant is in full operation.

CONCLUSION

We were requested in connection with this work, to report upon the acquisition of the properties from the Toronto Railway Company in the so-called "Clean-Up Deal" but we are informed that this transaction was not completed until November 1, 1922 and will not therefore enter into the records of the Hydro-electric Power Commission for the fiscal year ending October 31, 1922.

Yours very truly,

*Paul Waterham Co.*



## HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

STATEMENT SHOWING MONTHLY BALANCES IN CAPITAL ASSET ACCOUNTS OF THE NIAGARA SYSTEM INCLUDING  
THE QUEENSTON-CHIPIWA DEVELOPMENT FROM OCTOBER 31, 1921 TO AUGUST 31, 1922.

(CENTS SHIPPED)

Particulars	October 31, 1921	November 30, 1921	December 31, 1921	January 31, 1922	February 28, 1922	March 31, 1922	April 30, 1922	May 31, 1922	June 30, 1922	July 31, 1922	August 31, 1922
<b>QUEENSTON-CHIPIWA DEVELOPMENT:</b>											
Power Development	\$97,605,750	59,005,809	60,234,356	60,685,200	61,144,863	61,540,701	61,309,106	61,585,381	61,869,510	62,128,632	62,399,671
Walkerton Quarry	322,616	325,880	324,850	325,737	326,023	326,453	310,077	259,687	259,999	259,993	259,967*
Together	\$58,018,366	59,329,698	60,559,206	61,011,036	61,470,886	61,841,154	61,619,185	61,845,038	62,129,509	62,448,525	62,550,638
<b>NIAGARA SYSTEM:</b>											
Right-of-Way	1,511,126	1,511,178	1,511,181	1,512,500	1,512,631	1,512,608	1,514,345	1,514,363	1,514,415	1,514,844	1,514,906
Transformer Stations	8,533,621	8,569,094	8,632,571	8,679,400	8,814,709	8,829,447	9,576,489	9,836,486	9,854,175	9,700,590	10,276,141
Transmission Lines	7,370,500	7,260,832	7,530,268	7,601,047	7,715,498	7,934,371	7,986,281	8,035,568	8,126,777	8,163,710	8,277,429
Rural Construction	461,548	449,703	449,953	449,953	449,953	462,678	443,903	400,594	400,099	400,092	400,470
Rural Power Districts Construction	14,876	57,841	94,470	160,185	217,960	264,012	306,868	334,440	360,236	339,161	437,315
Together	\$17,800,679	17,837,648	18,216,443	18,411,160	18,710,758	18,992,116	19,827,886	19,921,451	20,055,702	20,162,397	20,906,361

\* Balance Walkerton Quarry Account at August 31, 1922      \$259,967.53

Add - Sundry amounts being transferred from account      32.47

Together, being unpaid balance of Purchase Price owing by the Hanover Portland Cement Company, Limited, per agreement of March 14, 1922.  
(Purchase Price \$10,000.00 less payment -  
May 15, 1922 of \$50,000.00)      \$260,000.00



## HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Exhibit Ia

NIAGARA SYSTEM- QUEENSTON-CHIPIWA DEVELOPMENT CAPITAL COST AT AUGUST 31, 1922.  
(Details prepared from Accounting Department Records  
of the Hydro Commission)

## General and Head Office:

Franchise Charters and By-Laws	\$ 9,399.95
Upkeep of Farming Lands and Buildings	90,127.49
Farm Account	22,798.49
Right-of-Way-	
Purchases	38,315.07
Cost of Land	1,279,467.30
Taxes on Land	2,061.02
Material and Signalling Apparatus	3,893.18
Interest on Mortgage	108.27
Damage to Crops	2,155.50
Legal Expense	2,805.85
Easements	9,350.00
Rent	33,251.21
Other Damages	53,927.76
General Expense	3,430.06
Business and Legal	3.07
Postage, Telephone and Telegraph	197.50
Rent	120.00
Advertising and Entertainment	308.53
Personal Expenses	961.26
Preliminary Surveys	8.00
Expense of securing labor	8.21

Together \$1,552,697.72

## Less- Credit Balances in following Accounts-

## Land Damages and Flooding

Rights	\$ 3,109.03
Sales of Products	272.07
Fire Insurance	5,000.00
Insurance and Taxes	4,457.14
Administration Charges	47,429.09

## Interest during Construction

721,100.76

262.22

\$ 781,630.31

\$ 771,067.41

52,452.32

1,353,359.29

1,051,630.42

363.32

69,841.09

1.60

2.08

1,068,664.58

94.03

503.91

61,622.96

226.71

1,388,306.10

355.40

1,864,566.83

400,231.38

1,479,560.91

2,257.74

53,927.40

33.81

1,663.85

2,502,927.44

1,470,216.21

Engineering	
Intake Works	52,452.32
River Improvements	1,353,359.29
Auxiliary Passageways	1,051,630.42
Ice and Log Chutes	363.32
Flumes - Wood	69,841.09
Flumes - Concrete	1.60
Penstocks - Steel	2.08
Penstocks - Concrete	1,068,664.58
Penstocks - Auxiliary Wood	94.03
Penstocks - Auxiliary Steel	503.91
Penstocks - Auxiliary Concrete	61,622.96
Power-House - General	226.71
Power-House - Superstructure	1,388,306.10
Power-House Substructure	355.40
Power-House Machinery	1,864,566.83
Turbines and Governors - Main	400,231.38
Exciter Turbines	1,479,560.91
Office Houses and Buildings - Permanent	2,257.74
Machine Shop Equipment	53,927.40
Power and Telephone Lines	33.81
Bridges, Trestles, Culverts and Roadway	1,663.85
Stores	2,502,927.44

Carried Forward

\$13,593,876.79



- 2 -

NIAGARA SYSTEM- QUEENSTON-CHIPPWA DEVELOPMENT CAPITAL COST AT AUGUST 31, 1922.		
Brought Forward		\$13,593,876.79
Temporary Buildings		119,541.13
Construction Plant and Machinery		1,997,298.84
Construction Railways		346,686.02
Construction - Power, Light and Telephone		90,907.61
Compressed Air Systems		3,865.18
Heating and Ventilating Systems (Permanent)	Forebay	41.78
Heating and Ventilating Systems (Permanent)	Power-House	234.56
Heating and Ventilating Systems (Permanent)	Transformer	
House		4.00
Sanitary and Drainage Systems (Permanent)	Forebay	442.40
Sanitary and Drainage Systems (Permanent)	Power-House	36,830.75
Sanitary and Drainage Systems (Permanent)	Transformer	
House		
Oil Supply Systems (Permanent)	Turbines	33.92
Oil Supply Systems (Permanent)	Generators	1,560.12
Oil Supply Systems (Permanent)	Transformers	35.56
Water Supply Systems (Permanent)	Power-House	1,181.71
Water Supply Systems (Permanent)	Transformer House	13,639.52
Water Supply Systems (Permanent)	Forebay	53.77
Compressed Air Systems (Permanent)	Power-House	17.86
Compressed Air Systems (Permanent)	Forebay	437.90
Permanent Water and Sanitary Systems		33.24
Reservoirs		.80
Primary Power Dams and Spillways		23.16
Forebay		89.35
Headworks - General		1,271,354.73
Headworks - Superstructure		224,135.53
Headworks - Substructure		5,446.51
Machinery - Miscellaneous		1,438,464.41
Canal		2.47
Permanent Railways		38,744,989.32
Elevator Shafts and Tunnels		200,000.00
Work on Escarpment		74,211.85
Salvage of Material and Plant		61,829.88
Queenston Station Superstructure including		222,041.47
Generating Equipment		\$6,248,428.15
Less- Amount transferred to Niagara Transformer Station Account for Queenston		
Transformer Station	2,721,057.95	3,527,370.20
Screenhouse Superstructure		226,205.86
Suspense Account		4,878.24
Works Orders		148,572.42
Test and Inspection		3,303.68
<b>Together</b>		<b>\$62,359,642.54</b>
<b>Less- Credit Balances in following Accounts-</b>		
Construction Roadways- Maintenance		428.43
Auxiliary Plant Operation		14,199.47
Construction Plant Maintenance and Repairs		3,406.99
Whirlpool Substation - Montrose		18,602.90
Unclaimed Wages	23,332.91	59,970.70
<b>Balance at August 31, 1922</b>		<b>\$62,299,671.84</b>



## HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

STATEMENT SHOWING IN DOLLARS IN CAPITAL AND ACCOUNTS OF THE ONTARIO POWER COMPANY OF NIAGARA FALLS  
AND ITS SUBSIDIARY THE ONTARIO TRANSMISSION COMPANY, LIMITED FROM OCTOBER 31, 1921 TO AUGUST 31, 1922  
(CENTS OMITTED)

Particulars	October 31, 1921	November 30, 1921	December 31, 1921	January 31, 1922	February 28, 1922	March 31, 1922	April 30, 1922	May 31, 1922	June 30, 1922	July 31, 1922	August 31, 1922
ONTARIO POWER COMPANY OF NIAGARA FALLS:											
Plant	122,025,811	122,025,811	122,025,811	122,025,811	122,025,811	122,025,811	122,025,811	122,025,811	122,025,811	122,025,861	122,025,861
Third Pine Line to Power Plant	3,515,094	3,515,094	3,515,094	3,515,094	3,515,094	3,515,094	3,515,094	3,515,094	3,515,094	3,515,094	3,515,094
Underground Distribution System	7,843	7,843	7,861	7,867	8,030	8,030	8,075	8,234	8,271	8,427	8,941
Tools and Construction Equipment	81,330	81,373	81,447	81,505	81,659	81,806	81,876	81,976	81,943	76,866	76,939
Automobiles, Trucks etc.	1,251	1,261	1,261	1,251	1,251	1,251	1,251	1,251	1,251	1,251	1,251
Office Furniture and Fixtures	10,344	10,344	10,308	10,283	10,283	10,302	10,302	10,302	10,302	10,302	10,302
Together	125,641,675	125,641,716	125,641,752	125,641,891	125,642,328	125,642,354	125,642,409	125,642,568	125,642,422	125,637,501	125,636,088
THE ONTARIO TRANSMISSION COMPANY, LIMITED:											
Distributing Stations	935,805	935,805	935,805	935,805	935,805	935,805	935,805	935,805	935,805	935,805	935,805
Transmission Lines	697,791	697,791	697,791	697,791	697,791	697,791	697,791	697,791	697,791	697,791	697,791
Additions to Plant	95,027	95,027	95,027	95,027	95,027	95,027	95,027	95,027	95,027	95,027	95,027
Falls Power Company Property	103,449	103,449	103,449	103,449	103,449	103,449	103,449	103,449	103,449	103,449	103,449
Real Estate	1,179,872	1,179,872	1,179,872	1,179,872	1,179,872	1,179,872	1,179,872	1,179,872	1,179,872	1,179,872	1,179,872
Real Estate Purchase Expenses	17,746	17,746	17,746	17,746	17,746	17,746	17,746	17,746	17,746	17,746	17,746
Additions to Real Estate	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
F.P. Grey	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350
Motors and Apparatus	35,296	35,296	34,386	33,336	33,336	33,286	33,146	33,146	33,146	33,146	33,130
Supervision and Expenses	13,497	13,497	13,497	13,497	13,497	13,497	13,497	13,497	13,497	13,497	13,497
Engineering	15,023	15,023	15,023	15,023	15,023	15,023	15,023	15,023	15,023	15,023	15,023
Together	8,000,076	8,000,076	8,000,076	8,000,076	8,000,076	8,000,076	8,000,076	8,000,076	8,000,076	8,000,146	8,000,146
Totals	128,740,740	128,740,793	128,740,828	128,740,967	128,741,404	128,741,430	128,741,395	128,741,554	128,740,568	128,735,647	128,735,218

## NOTE.

Work Orders of the Ontario Power Company of Niagara Falls representing Maintenance, envelopes, construction work in progress, etc. on which \$101,368.45 had been expended at August 31, 1922 have not been included in the above figures. It is the practice of the Commission to allocate expenditures, in this connection, between Capital and Expense at the end of each fiscal year.



HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

## NIAGARA SYSTEM

COMPARATIVE STATEMENT OF OPERATIONS FOR THE TWO MONTHS ENDING AUGUST 31, 1923,  
 (BASED UPON BOOK ACCOUNTS AND ESTIMATE FIGURES)



## THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

## NIAGARA SYSTEM

ANALYSIS OF OPERATING EXPENSES FOR THE TEN MONTHS ENDING MARCH 31, 1922.  
(SUBSIDIARY TO "STATEMENT OF OPERATIONS")

Particulars	Amount
<u>STATIONS-</u>	
High Tension:	
Superintendence	\$ 902.94
Labor	148,101.13
Supplies	8,276.21
Heating	302.15
Lubricants and Waste	1,482.13
Water Supply	2,212.29
Telephone and Telegraph	1,393.30
Rentals and Taxes	970.93
Insurance	2,967.16
Miscellaneous	814.83
Travelling Expenses	994.90
General Expense	20,277.74
	\$189,695.71
Low Tension:	
Labor	\$ 7,351.96
Supplies	2,743.80
Miscellaneous	133.97
General Expense and Insurance	1,140.32
Power Supplied (Transformer Rentals)	509.76
Rentals and Taxes	95.65
	\$ 11,975.46
<u>All Stations:</u>	
Superintendence	\$ 5,229.47
Labor	1,166.42
Supplies	540.68
Telephone and Telegraph	6.45
Miscellaneous	816.43
Travelling Expenses	147.32
	\$ 7,906.77
	\$ 208,577.94
<u>LINEs-</u>	
Patrolling	\$ 24,322.44
Miscellaneous	299.15
	\$ 24,621.59
<u>Total (Exhibit 111)</u>	\$ 233,199.53



## THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

## NIAGARA SYSTEM

ANALYSIS OF MAINTENANCE EXPENSES FOR THE TWO MONTHS ENDING AUGUST 31, 1922  
(SUBSIDIARY TO STATEMENT OF OPERATIONS)

Particulars	Amount
<u>STATIONS.</u>	
<u>High Tension:</u>	
Lands	\$ 3,204.76
Buildings and Structures	3,560.30
Water Conveying and Controlling	41.29
Hydraulic Machinery	455.15
Electrical Equipment	58,450.89
Miscellaneous	509.82
Permanent Auxiliary Systems	10,231.30
General	1,254.53
Administrative and Office Expense	<u>5,824.91</u> \$83,532.95
<u>Low Tension:</u>	
Lands	\$ 2.73
Buildings and Structures	1,076.30
Electrical Equipment	8,829.00
Permanent Auxiliary Systems	511.44
Administrative and Office Expense	<u>733.52</u>
General	<u>2.30</u> \$11,155.29    \$ 94,688.24
<u>LINES.</u>	
<u>High Tension:</u>	
Lands	\$ 4,822.91
Structures and Apparatus	8.79
Pole or Tower Lines	19,395.87
Conductors and Cables Over- head	39,926.19
Engineering and Superintend- ence	5,347.85
Sundry Items	<u>50.00</u> \$69,551.61
<u>Low Tension:</u>	
Lands	\$ 9,081.94
Structures and Apparatus	1,241.17
Pole or Tower Lines	28,376.15
Conductors and Cables Over- head	19,556.27
Engineering and Superintend- ence	4,087.31
General	<u>82.24</u> \$62,425.08
<u>All Sections:</u>	
Non-chargeable Time of Workmen etc.	\$ 5,176.69    \$137,153.38
<u>Total (Exhibit 111)</u>	\$231,841.62



THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO  
NIAGARA SYSTEM

ANALYSIS OF INDIRECT EXPENSES FOR THE TEN MONTHS ENDING AUGUST 31, 1922  
(SUBSIDIARY TO STATEMENT OF OPERATIONS)

<u>Particulars</u>	<u>Amount</u>
<u>OPERATION-</u>	
<u>Head Office Operating Department:</u>	
Salaries	\$21,469.48
Travelling Expenses	320.29
General Expense	2,893.14
Insurance	21.48
Miscellaneous Expense	99.98
Telephone and Telegraph	<u>58.86</u>
	<u>\$24,860.22</u>
<u>Field Office:</u>	
Salaries	\$15,251.33
Travelling Expenses	1,870.13
General Expense	2,077.02
Insurance	84.37
Rent	1,380.25
Miscellaneous Expenses	662.99
Telephone and Telegraph	397.30
Stamps and Stationery	<u>873.90</u>
	<u>\$22,597.29</u>
<u>General:</u>	
Electrical Engineering	\$ 1,953.79
Municipal Department	9,055.81
Municipal Administration	19,469.85
Municipal Auditing	5,726.53
Inventory, Stations, Lines etc.	1,426.40
Miscellaneous Equipment	2,143.28
Rate Department	1,193.13
Handling Maintenance Stores	10,773.07
Miscellaneous Expenses	961.72
Overhead Operating Expenses	35,067.65
Laboratory Expenses	24,617.19
Garage Expenses	5,402.41
Testing Temporary Meters	1,485.66
Reserve Equipment (Rental)	<u>119,176.49</u>
	<u>1,464.74</u>
	<u>\$165,169.06</u>
<u>MAINTENANCE-</u>	
General Administration	6,137.93
Administrative and Office Expense	687.05
Reserve Equipment Expense	63.14
<u>Field Offices:</u>	
Salaries and Expenses	\$ 782.03
Miscellaneous Expenses	57.78
Administrative and Office Expenses	75.10
	914.91
	<u>7,803.03</u>
<u>Total (Exhibit 111)</u>	<u>\$172,972.09</u>



**HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO**  
**ONTARIO POWER COMPANY OF NIAGARA LTD. AND ITS SUBSIDIARY**  
**THE NIAGARA TRANSFER AND GROWTH COMPANY LIMITED**

COMPARATIVE CONSOLIDATED OPERATING ACCOUNTS FOR THE TWELVE MONTHS ENDING AUGUST 31, 1932, (Based upon Book Accounts and Estimated Figures)



## THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

ONTARIO POWER COMPANY OF NIAGARA FALLS  
AND ITS SUBSIDIARY  
THE ONTARIO TRANSMISSION COMPANY, LIMITEDANALYSIS OF OPERATING EXPENSES FOR THE FIVE MONTHS ENDING AUGUST 31, 1922.  
(SUBSIDIARY TO OPERATING ACCOUNT)

Particulars	Amount
<u>POWER DEVELOPMENT-</u>	
Station	
Labor	\$47,297.80
Supplies	1,652.10
Lubricants and Waste	6,246.77
Restoring Surface over Third Pipe	
Line	7,000.00
Electric - Miscellaneous	792.92
Machine Shop	2.41
	<u>\$62,987.18</u>
Hydraulic	
Labor	\$ 7,087.22
Supplies	144.52
Heating	8.65
Ice Expense	3,210.24
	<u>\$10,450.63</u>
Electric	
Labor	\$19,142.96
Supplies	1,174.82
General	2.10
	<u>\$ 20,317.78</u>
<u>TRANSMISSION STATIONS-</u>	<u>\$ 93,757.69</u>
Labor	\$ 2,203.17
Supplies	33.94
<u>SERVICE BUILDINGS-</u>	<u>\$ 2,287.11</u>
Machine Shop	
Labor	\$ 1,370.30
Miscellaneous	474.07
Production	68.09
Heating	423.29
Sale of Scrap	140.43
	<u>\$ 2,195.32</u>
Stores Department - Miscellaneous	<u>2,291.82</u>
<u>TRANSMISSION LINES-</u>	<u>\$ 4,487.14</u>
Patrol	5,203.41
Crossing Rental	272.00
<u>GENERAL OPERATING EXPENSES-</u>	<u>\$ 5,475.41</u>
Field Office	
Salaries	\$36,480.30
Travelling Expenses	1,672.47
Stamps and Stationery	531.26
Telephone and Telegraph	848.40
Insurance	413.83
Miscellaneous	570.04
	<u>\$40,516.30</u>
Operating	
Salaries	\$ 5,525.43
Travelling Expenses	13.75
Miscellaneous	.75
Electrical Engineering Department	<u>\$ 5,539.91</u>
Rate Department	454.88
Plant Inventory	290.73
	<u>54.78</u>
<u>HURON TOWN STREET LIGHTING</u>	<u>\$ 46,856.60</u>
TRUCK RAPID FIRE	273.68
	<u>308.42</u>
Total per books at August 31, 1922	\$152,752.20
<u>EMERGENT- Sundry Items prorated for purpose of estimate</u>	<u>1,166.00</u>
Balance, (Exhibit IV)	\$151,586.20



## THE HYDRO ELECTRIC POWER COMMISSION OF ONTARIO

ONTARIO POWER COMPANY OF NIAGARA FALLS  
AND ITS SUBSIDIARY  
THE ONTARIO TRANSMISSION COMPANY, LIMITED

ANALYSIS OF MAINTENANCE EXPENSES FOR THE TEN MONTHS ENDING AUGUST 31, 1922.  
(SUBSIDIARY TO OPERATING ACCOUNT)

<u>Particulars</u>	<u>Amount</u>
<u>POWER DEVELOPMENT-</u>	
General Lands	\$ 1,782.98
Building and Structures	1,175.48
Water Conveying and Controlling Structures	1,044.44
Hydraulic Machinery and Apparatus	23,145.65
Electrical Equipment	17,700.59
Permanent Auxiliary Systems	10,314.78
Miscellaneous Equipment	1,241.90
	\$ 55,424.72
<u>MAIN TRANSFORMER STATION;</u>	
Lands	3,503.43
Buildings and Structures	3,275.13
Electrical Equipment	22,008.56
Permanent Auxiliary Systems	3,039.12
Miscellaneous Equipment	745.08
General	.33
	\$ 32,571.67
<u>TRANSFORMER STATION ( Port Colborne Station)-</u>	
Buildings and Structures	53.25
Electrical Equipment	109.42
Auxiliary Systems	48.10
	\$ 210.77
<u>SERVICE BUILDINGS-</u>	
Machine Shop Building and Carpenter Shop	3,023.03
Storehouse	892.68
	\$ 3,915.71
<u>ONTARIO POWER COMPANY ( CHARGES AND WORK ORDERS APPLYING TO THE SYSTEM AS A WHOLE)-</u>	
Power Department - General	423.12
Transformer Station - General	2,841.68
Transmission Lines - General	5,651.06
Storehouse for Systems	477.49
	\$ 12,393.35
<u>STATIONS AND METERS</u>	
	1,597.20
<u>TRANSMISSION LINES</u>	
	17,101.07
<u>DEFERRED MAINTENANCE WORK ORDERS ( Provision of \$3,000.00 each month, pending distribution as at October 31, 1922)</u>	
	30,000.00
<u>Total, per Exhibit IV</u>	
	\$ 153,214.49



THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO  
NIAGARA DIVISION

STATEMENT SHOWING ACTUAL COST PER HORSE POWER FOR THE FISCAL YEAR  
ENDING OCTOBER 31, 1921 TOGETHER WITH A COMPARISON OF INTERIM  
RATES CHARGED TO MUNICIPALITIES IN THAT YEAR AND FOR THE  
TEN MONTHS ENDING AUGUST 31, 1922.

Municipality	Fiscal Year ending October 31, 1921			Ten Months ending August 31, 1922	
	Interim Rates Charged		Actual Cost	Per Horse	Interim Rates Charged
	Nov. 1, 1920	Jan. 1, 1921	Power for year		Nov. 1, 1921
	to Dec. 31, 1920	to Feb. 31, 1921			to Dec. 31, 1921
Acton	\$32.00	\$32.00	\$34.87	\$32.00	\$37.00
Ailsa Craig	49.00	49.00	45.88	49.00	49.00
Aylmer	38.00	45.00	44.59	45.00	50.00
Ayr	50.00	50.00	43.49	50.00	50.00
Baden	32.00	32.00	31.63	32.00	36.00
Beachville	27.00	30.00	32.84	30.00	37.00
Blenheim	50.00	53.00	49.00	53.00	54.00
Bolton	60.00	60.00	50.01	60.00	60.00
Bethwell	60.00	60.00	49.85	60.00	55.00
Brampton	20.00	20.00	23.83	20.00	26.00
Brantford	18.00	20.00	20.82	20.00	25.00
Brigden	57.50	60.00	62.29	60.00	66.00
Burford	70.00	70.00	76.76	70.00	70.00
Burgesaville	48.00	48.00	47.13	48.00	52.00
Caledonia	24.00	24.00	24.59	24.00	29.00
Chatham	29.00	28.00	26.24	28.00	31.00
Chippawa Village	35.00	32.00	20.73	32.00	32.00
Clinton	43.00	46.00	42.69	46.00	48.00
Comber	40.00	60.00	50.30	60.00	60.00
Dashwood	56.00	56.00	64.53	56.00	62.00
Delaware	85.00	85.00	68.76	85.00	85.00
Dereham Township	37.00	37.00	37.90	37.00	37.00
Dorchester	50.00	50.00	47.17	50.00	50.00
Drayton	65.00	70.00	66.60	70.00	72.00
Dresden	38.00	38.00	33.50	38.00	38.00
Drumbo	60.00	55.00	46.11	55.00	55.00
Dublin	60.00	60.00	73.80	60.00	70.00
Dundas	14.00	17.00	17.79	17.00	22.00
Dunnville	35.00	40.00	41.21	40.00	50.00
Dutton	40.00	40.00	39.81	40.00	44.00
Elmira	38.00	38.00	32.93	38.00	38.00
Elora	40.00	40.00	40.00	40.00	44.00
Embro	75.00	75.00	69.60	75.00	80.00
Etobicoke Township	27.00	27.00	22.88	27.00	27.00
Exeter	41.00	41.00	47.36	41.00	46.00
Fergus	40.00	44.00	40.04	44.00	47.00
Forest	63.00	60.00	56.92	60.00	60.00
Galt	20.00	21.00	23.50	21.00	25.00
Georgetown	35.00	35.00	39.65	35.00	38.00
Glencoe	78.35	78.35	71.52	78.35	76.00
Goderich	43.00	50.00	49.87	50.00	55.00
Granton	55.00	55.00	48.59	55.00	55.00
Guelph	19.00	20.00	21.07	20.00	25.00
Hagersville	36.00	36.00	31.97	36.00	36.00
Hamilton	14.00	16.00	17.51	16.00	20.00
Harriston	52.00	55.00	40.22	55.00	50.00
Hensall	55.00	57.00	62.19	57.00	64.00
Hespeler	21.00	23.00	26.23	23.00	29.00
Highgate	51.00	55.00	49.11	55.00	55.00
Ingersoll	21.00	23.00	25.66	23.00	29.00



**THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO**  
**NIAGARA DIVISION**

**STATEMENT SHOWING ACTUAL COST PER HORSE POWER FOR THE FISCAL YEAR  
 ENDING OCTOBER 31, 1921 TOGETHER WITH A COMPARISON OF INTERIM  
 RATES CHARGED TO MUNICIPALITIES IN THAT YEAR AND FOR THE  
 TEN MONTHS ENDING AUGUST 31, 1922.**

Municipality	Fiscal Year ending October 31, 1921 Ten Months ending August 31, 1922					
	Interim Rates Charged		Actual Cost Per Horse Power for year	Interim Rates Charged		Revised Rates effective from Jan. 1, 1922
	Nov. 1, 1920 to Dec. 31, 1920	Jan. 1, 1921 to Oct. 31, 1921		Nov. 1, 1921 to Dec. 31, 1921	to	
Kitchener	\$19.00	\$20.00	\$21.51	\$20.00	\$25.00	
Lambeth	85.00	75.00	67.10	75.00	75.00	
Listowel	37.00	37.00	32.54	37.00	37.00	
London	19.00	20.00	21.02	20.00	25.00	
London, Port	15 K. W. H.	15 K. W. H.		15 K. W. H.	15 K. W. H.	
Stanley Railway Commission	plus	plus		plus	plus	
Lucan	15.00	15.00	39.35	15.00	15.00	
Lynden	50.00	50.00	38.71	35.00	38.00	
Markham	77.74	77.74	43.53	50.00	50.00	
Milton	28.00	28.00	27.72	28.00	32.00	
Millerton	35.00	35.00	31.21	35.00	35.00	
Mimico	21.00	21.00	23.32	21.00	26.00	
Mitchell	36.00	36.00	32.86	36.00	37.00	
Moorefield	70.00	70.00	66.41	70.00	70.00	
Mount Brydges	70.00	70.00	69.62	70.00	76.00	
Newberry	-	67.10	65.77	67.10	67.10	
New Hamburg	32.00	32.00	33.75	32.00	38.00	
New Toronto	20.00	22.00	24.78	22.00	26.00	
Niagara Falls	11.50	12.50	14.23	12.50	17.50	
Niagara-on-the- Lake	28.00	28.00	18.68	28.00	26.00	
Norwich	35.00	35.00	34.70	35.00	39.00	
Oil Springs	43.00	43.00	40.94	43.00	48.00	
Otterville	50.00	50.00	43.52	50.00	52.00	
Palmerston	50.00	45.00	36.49	45.00	45.00	
Paris	19.00	21.00	22.02	21.00	26.00	
Parkhill	75.23	75.00	67.25	75.00	75.00	
Petrolia	36.00	36.00	30.78	36.00	36.00	
Plattsville	65.00	65.00	86.77	65.00	75.00	
Port Credit	23.00	23.00	27.93	23.00	28.00	
Port Stanley	53.00	50.00	41.43	50.00	50.00	
Preston	19.00	22.00	22.49	22.00	27.00	
Princeton	85.00	90.00	95.11	90.00	90.00	
Queenston	-	18.42	19.00	18.42	18.42	
Ridgetown	47.00	45.00	41.04	45.00	45.00	
Rockwood	55.00	55.00	53.33	55.00	65.00	
Rodney	63.00	55.00	41.93	55.00	50.00	
St. George	45.00	45.00	39.89	45.00	49.00	
St. Jacobs	32.00	35.00	34.87	35.00	40.00	
St. Mary's	28.00	32.00	30.32	32.00	35.00	
St. Thomas	24.00	25.00	25.89	25.00	30.00	
Sarnia	36.00	35.00	30.34	35.00	35.00	
Scarboro Township	25.00	28.00	37.79	28.00	35.00	
Seaford	36.00	36.00	36.26	36.00	40.00	
Simee	28.00	28.00	30.40	28.00	34.00	



**THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO**  
**NIAGARA SYSTEM**

**STATEMENT SHOWING ACTUAL COST PER HORSE POWER FOR THE FISCAL YEAR  
 ENDING OCTOBER 31, 1921 TOGETHER WITH A COMPARISON OF INTERIM  
 RATES CHARGED TO MUNICIPALITIES IN THAT YEAR AND FOR THE  
 TEN MONTHS ENDING AUGUST 31, 1922.**

Municipality	Fiscal Year ending October 31, 1921			Ten Months ending August 31, 1922		
	Interim Rates Charged		Actual Cost	Interim Rates Charged		Revised Rates effective from
	Nov. 1, 1920	Jan. 1, 1921	Per Horse Power for year	Nov. 1, 1921	to Dec. 31, 1921	Jan. 1, 1922
	to Dec. 31, 1920	Oct. 31, 1921				
S. Dorchester						
Township						
Springfield	\$65.00	\$65.00	\$53.07			
Stamford Town- ship			54.63	\$65.00	\$65.00	
Stratford	15.00	16.00	15.43	16.00	20.00	
Strathroy	25.00	27.00	26.52	27.00	30.00	
Streatsville	40.00	37.00	35.58	37.00	40.00	
Tavistock			36.27			
Thamesford	35.00	35.00	33.00	35.00	37.00	
Thamesville	55.00	50.00	49.54	50.00	54.00	
Thorndale	60.00	55.00	49.01	55.00	55.00	
Tilbury	60.00	50.00	77.87	60.00	70.00	
Tillsonburg	50.00	50.00	40.12	50.00	50.00	
Toronto	30.00	30.00	34.94	30.00	39.00	
Toronto Township	17.00	17.00	18.37	17.00	22.00	
Walkerville	25.00	25.00	26.81	25.00	30.00	
Wallaceburg	36.00	35.00	31.75	35.00	35.00	
Wardsville	38.00	35.00	33.18	35.00	38.00	
Waterdown			32.20	32.20	32.20	
Waterford	26.00	31.00	31.47	31.00	36.00	
Waterloo	33.00	33.00	34.41	33.00	38.00	
Watford	20.00	21.00	21.67	21.00	26.00	
Welland	85.00	85.00	77.89	85.00	85.00	
Wellesley	14.00	16.00	17.07	16.00	20.00	
Weston	39.00	39.00	39.03	39.00	43.00	
West Lorne	23.00	23.00	24.95	23.00	29.00	
Windsor	55.00	50.00	35.77	50.00	45.00	
Woodbridge	36.00	35.00	29.75	35.00	35.00	
Woodstock	31.00	31.00	32.74	31.00	37.00	
Wyoming	20.00	21.00	22.88	21.00	27.00	
Zurich	60.00	60.00	50.04	60.00	60.00	
	60.00	60.00	70.06	60.00	74.00	
Thexford	(Connected May 18, 1922)				110.77	
Alvinston	(Connected Mar. 27, 1922)				95.95	
Port Dover	(Connected Nov. 8, 1921)			62.00	62.00	



## HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

## NIAGARA SYSTEM

COST OF POWER PURCHASED AND DEVELOPED BY THE NIAGARA SYSTEM BASED ON COSTS  
PARTIALLY ESTIMATED TO AUGUST 31, 1922.

Particulars	November 1921	December 1921	January 1922	February 1922	March 1922	April 1922	May 1922	June 1922	July 1922	August 1922	Totals
<b>FROM ONTARIO POWER COMPANY-</b>											
At \$9.00 per H.P. per Annum	\$ 72,285.75	\$ 72,004.75	\$ 72,119.25	\$ 72,126.75	\$ 62,075.48	\$ 62,990.63	\$ 72,285.75	\$ 36,000.75	\$ 41,991.75	\$ 44,650.50	\$ 608,611.36
At \$15.00 per H.P. per Annum	122,133.00	120,249.00	118,954.50	30,690.00	13,829.54	9,048.00	4,996.50				419,100.54
Operating Loss Together	<b>\$ 319.90</b>	<b>12,526.97</b>	<b>7,603.32</b>	<b>50,958.94</b>	<b>53,194.70</b>	<b>72,109.64</b>	<b>131,054.07</b>	<b>83,396.64</b>	<b>37,667.85</b>	<b>69,313.34</b>	<b>552,505.87</b>
Horse Power Per Annum	\$189,098.85	\$204,860.72	\$198,677.37	\$153,775.69	\$128,299.78	\$144,148.37	\$228,336.32	\$119,397.39	\$ 99,656.60	\$113,965.84	\$1,586,217.77
Cost per H.P. per Annum	177,803	176,279	175,462	116,629	91,483	90,020	99,712	48,001	55,989	59,534	1,090,882
	<b>\$ 12.76</b>	<b>13.95</b>	<b>13.59</b>	<b>15.82</b>	<b>16.83</b>	<b>19.21</b>	<b>27.48</b>	<b>29.85</b>	<b>21.36</b>	<b>22.97</b>	<b>17.38</b>
<b>FROM QUEENSTON-CHIPIWA DEVELOPMENT-</b>											
Amount	-	-	\$ 4,992.21	\$ 89,365.00	\$121,653.30	\$136,375.43	\$ 93,833.33	\$187,666.66	\$192,135.00	\$192,135.00	\$1,018,183.93
Horse Power per Annum	-	-	2,998	53,619	73,010	81,284	56,300	112,600	115,281	115,281	610,910
Cost per H.P. per Annum	-	-	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00
<b>FROM CANADIAN NIAGARA POWER COMPANY-</b>											
Amount	\$ 50,000.00	\$ 50,000.00	\$ 47,024.35	\$ 49,946.76	\$ 49,887.91	\$ 49,974.80	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 496,833.82
Horse Power per Annum	50,000.00	50,000.00	47,024.35	49,946.76	49,887.91	49,974.80	50,000.00	50,000.00	50,000.00	50,000.00	496,833.82
Cost per H.P. per Annum	\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00
<b>FROM TORONTO HYDRO-ELECTRIC SYSTEM-</b>											
Amount	\$ 762.62	\$ 781.41	\$ 805.75	\$ 772.66	\$ 665.27	\$ 612.53	\$ 709.81	\$ 723.49	\$ 727.59	\$ 790.18	\$ 7,351.31
Horse Power per Annum	370.	291.5	397.	401.7	340.5	301.5	345.	346.	346.	430.5	3,570.7
Cost per H.P. per Annum	\$ 24.73	\$ 32.17	\$ 24.36	\$ 23.08	\$ 23.45	\$ 24.39	\$ 24.63	\$ 25.09	\$ 25.23	\$ 22.03	24.71
<b>ALLOWANCE TO KLEKTRO METALS, LIMITED, under agreement modifying Contract-</b>											
Amount	\$ 1,833.33	\$ 1,833.33	\$ 1,833.33	\$ 1,833.33	\$ 887.10	-	-	-	-	-	\$ 8,220.43
<b>TOTAL POWER PURCHASED</b>											
Amount	\$241,694.80	\$257,475.46	\$253,333.01	\$295,693.44	\$301,423.30	\$331,100.03	\$372,379.46	\$357,787.54	\$342,522.19	\$356,889.02	\$3,110,807.25
Horse Power per Annum	226,173	226,570.5	225,878.35	220,596.46	214,691.41	222,120.3	206,358	210,947	221,616	225,245.5	2,202,196.52
Cost per H.P. per Annum	\$ 13.71	\$ 13.34	\$ 13.46	\$ 16.09	\$ 16.35	\$ 17.39	\$ 21.68	\$ 20.35	\$ 18.55	\$ 19.01	16.95
<b>POWER SOLD, H.P. per Annum</b>	229,877.39	228,159.73	224,711.37	216,393.02	220,355.21	214,520.77	211,041.71	206,390.80	210,059.91	222,088.61	2,183,595.52
<b>Cost per H.P. per Annum</b>	\$ 12.63	\$ 13.34	\$ 13.53	\$ 16.40	\$ 16.41	\$ 18.52	\$ 21.20	\$ 20.80	\$ 19.87	\$ 19.28	17.10
<b>EXCESS OF POWER PURCHASES OVER POWER SALES (In Horse Power)</b>	<b>1,704.35</b>	<b>1,590.23</b>	<b>1,166.98</b>	<b>4,203.44</b>	<b>5,683.80</b>	<b>7,599.53</b>	<b>4,283.71</b>	<b>4,556.20</b>	<b>11,556.09</b>	<b>3,156.89</b>	<b>18,598</b>





